

**Han, Wei**

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**From:** Han, Wei  
**Sent:** Tuesday, May 08, 2012 1:33 PM  
**To:** Flynn Stephanie M  
**Subject:** Public Notice  
**Attachments:** Koppers.doc

Stephanie,

Attached is the public notice information for Koppers, including the local media names. Please let me know if you have any questions.

Wei Han  
Illinois Environmental Protection Agency  
BOA/DAPC/Permit Section  
1021 North Grand Avenue E.  
P.O. Box 19276  
Springfield, IL 62794-9276

Phone: 217-785-1890  
Fax: 217-524-5023  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

Illinois Environmental Protection Agency  
Public Notice Order Form

Division: Air Permits

Ordered By: Bradley Frost

Phone: 217/782-7027

Public Notice Number: C12 - 006

Newspaper or location where ad is to be placed: Lawndale News (5/10/2012) and Berwyn  
Cicero Stickney LIFE (5/16/2012)

Run Date(s): see above

Special Instructions:

Ad is to run as an ROP Display - NOT as a legal notice

Please typeset and border ad copy.

Ad Size: 2 x 5

Authorizing Name: Brad Frost

Date: May 8, 2012

Illinois Environmental Protection Agency

Notice of Public Comment Period for the  
Proposed Issuance of a Construction Permit to  
Koppers Industries, Inc. in Cicero

Koppers Industries, Inc. has applied to the Illinois EPA Bureau of Air for a permit to construct a new heater for Tar Distillation System #2 at its facility at 3900 South Laramie Avenue in Cicero. The new heater will replace the existing heater that serves this system. The project is not a major project for purposes of the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and the state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of sulfur dioxide, this is because there will not be a significant net increase in emissions considering the emissions decrease from the shut down of the existing heater.

Based on its review of the application, the Illinois EPA has made a preliminary determination that this project will comply with the applicable environmental regulations and has prepared a draft permit for public review.

The Illinois EPA is accepting comments prior to making a final decision on the application for this project. **Comments must be postmarked by midnight June 9, 2012.** If sufficient interest is expressed in this matter, a hearing or other informational meeting may be held. Comments, questions and requests for information, should be directed to Brad Frost, Bureau of Air, Illinois EPA, P. O. Box 19506, Springfield, IL 62794-9506, phone 217/782-2113, TDD 217/782-9143.

Persons wanting more information may view the draft permit and project summary at { HYPERLINK "<http://www.epa.gov/reg5oair/permits/ilonline.html>" } The repositories for these documents and the application are located at the Illinois EPA's offices at 9511 West Harrison in Des Plaines, 847/294-4000 and 1340 N. Ninth St., Springfield, 217/782-7027 (please call ahead to assure that someone will be available to assist you). Copies of the documents will be made available upon request.

Han, Wei

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**From:** Han, Wei  
**Sent:** Wednesday, May 02, 2012 5:49 PM  
**To:** 'Flynn Stephanie M'  
**Cc:** Patel, Minesh  
**Subject:** RE: Update  
**Attachments:** ProjSum.doc; Draft4-4-12.doc

Stephanie,

Attached are the project summary and the permit for your QUICK review. Please let me know if you have any MAJOR comments. We would like to hear from you by this Friday. After that, we will start the public comment period. I will let you know the media where the public notice goes. Thank you.

Wei Han  
Illinois Environmental Protection Agency  
BOA/DAPC/Permit Section  
1021 North Grand Avenue E.  
P.O. Box 19276  
Springfield, IL 62794-9276

Phone: 217-785-1890  
Fax: 217-524-5023  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Tuesday, May 01, 2012 4:14 PM  
**To:** Han, Wei  
**Subject:** Update

Hi Wei,

Do we have any update of when the draft permit is going out for Public notice.

Thanks,  
Stephanie  
Koppers Inc.  
(708) 222-3481

Illinois Environmental Protection Agency  
Bureau of Air, Permit Section  
Springfield, Illinois

Project Summary for a  
Construction Permit Application from  
Koppers Industries, Inc.  
For a New Tube Heater for  
Tar Distillation System #2 at  
Its Manufacturing Plant in  
Cicero, Illinois

Site Identification No.: 031300AAJ  
Application No.: 11100041  
Date Received: October 24, 2011

Schedule

Public Comment Period Begins:  
Public Comment Period Closes:

Illinois EPA Contacts

Permit Analyst: Wei Han/Minesh Patel  
Community Relations Coordinator: Brad Frost

## I. Introduction

Koppers Industries, Inc. (Koppers) has applied for construction permit for a new heater for Tar Distillation System #2 at its manufacturing plant in Cicero, Illinois. The new heater will replace the existing heater that serves this system.

The Illinois EPA has reviewed the application for a construction permit and made preliminary determination that the application meets applicable requirements. Accordingly, the Illinois EPA has prepared a draft of the construction permit that it would propose to issue for the proposed project. However, before issuing the permit, the Illinois EPA is holding a public comment period to receive comments on the proposed issuance of the construction permit and the terms and conditions of the draft of the construction permit.

## II. Project Description

Tar Distillation System #2 processes crude coal tar to separate out different intermediate streams in the material, such as naphtha and refined chemical oil. The new heater will supply the thermal energy for the distillation process, heating the crude tar that is fed to the distillation column for processing. The new heater will also serve as the afterburner control device for the distillation column in the tar distillation system, combusting the process gases that pass through the condensers on the top of the column. The new heater will replace the existing heater. Like the existing heater, the new heater will use natural gas and process gas from the distillation process as its fuel. The new tube heater will be used in an identical way the existing heater is operated. For this project, Koppers has not requested any changes to the plant-wide emission limits as permitted by its Clean Air Act Permit Program (CAAPP), Permit 96030134.

The new heater would have a natural gas burner with a nominal capacity of 14 mmBtu/hour. It would be constructed from the external shell of an existing heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack. The project cost is estimated to be about 40 percent of a comparable new heater.

The principal air contaminants emitted from the heater would be sulfur dioxide ( $\text{SO}_2$ ) and nitrogen oxide ( $\text{NO}_x$ ). Volatile organic materials (VOM), carbon oxide (CO), and  $\text{PM}/\text{PM}_{10}$  are also emitted as products of combustion. The  $\text{SO}_2$  is formed from sulfur compounds, i.e., carbonyl sulfide (COS), hydrogen sulfide ( $\text{H}_2\text{S}$ ) and carbon disulfide ( $\text{CS}_2$ ), in the process gas. These compounds are oxidized during combustion in the heater, converting the sulfur to  $\text{SO}_2$ . The natural gas fuel contains minimal amounts of sulfur.  $\text{NO}_x$  can be formed thermally by combination of oxygen and nitrogen in the air at the temperatures at which fuel is burned. Thermal  $\text{NO}_x$  is formed during the operation of all common high temperature combustion processes including natural gas tube heater.  $\text{NO}_x$  can also be formed from oxidation of any nitrogen in the process gas.

## IV. Emissions

A summary of the future permitted or potential emissions of the new heater, as would be provided by the draft permit, is provided below in Table 1. These limits are based on the maximum emission rates provided in the application for operation at the requested level of production. Actual annual emissions of the heater would be less than these limits to the extent that the actual fuel consumption of the heater is lower than projected and the distillation system does not operate at its capacity.

Table 1: Summary of Permitted Emissions  
of the New Heater

Pollutant	Limit
	Tons/Year
CO	13.1
NO <sub>x</sub>	26.2
PM/PM <sub>10</sub>	2.2
SO <sub>2</sub>	181.2
VOM	13.1

#### V. Applicable Emission Standards

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The new heater should readily comply with applicable emission standards of the State of Illinois (35 IAC Subtitle B, Subchapter c), since it will be essentially identical to the existing heater that it would replace.

This project will not affect applicable emission standards for Tar Distillation System #2, as addressed in the current Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134. Pursuant to applicable emission standards, the waste process gas from this system must be controlled by an afterburner or equivalent control device.<sup>1</sup>

#### VI. Applicability of New Source Review

The proposed project is not a major project for purposes of Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203, also known as nonattainment new source review (NA NSR). This project is not significant for emissions of pollutants other than SO<sub>2</sub>.

While the project's emissions for SO<sub>2</sub> are significant, Koppers chose to evaluate the net change in SO<sub>2</sub> emissions at the source, considering the decrease in emissions of SO<sub>2</sub> that will accompany the shutdown of the existing heater. This evaluation involves summing all creditable increases and decreases in SO<sub>2</sub> emissions for the project as well as other creditable increases and decreases that have occurred over the contemporaneous time period. The results of this evaluation show that the net changes in SO<sub>2</sub> emissions for this project will be less than significant, i.e., an increase of 28.7 tons per year compared to the 40.0 ton per year significant emission rate for SO<sub>2</sub>. The project shows an increase in SO<sub>2</sub> emissions because MSSCAM requires that this analysis account for the potential operation of the system and maximum sulfur content of waste gas, as compared to the actual levels of operation and

<sup>1</sup> Tar Distillation System #2 is not subject to the National Emission Standards for Organic Hazardous Air Pollutants (NESHAP) from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H because the primary products manufactured by the system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

Tar Distillation System #2 is not subject to New Source Performance Standards (NSPS) for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN. This is because construction of the system commenced prior to December 30, 1983 and this project, which involves the heater for the system, would not entail a modification of this system for purposes of this NSPS.

actual levels of sulfur in process gas, which are the basis for data for past actual SO<sub>2</sub> emissions. A summary of this evaluation is provided in Attachment 1 of the draft permit.

#### VII. Draft Permit

The permit for the new heater would set forth the air pollution control requirements that apply to the heater, including the applicable emission standards. They also include the measures that must be used as good air pollution control practices to minimize emissions.

The permit would also establish requirements for the sampling and analyzing process waste gas for its sulfur content. It also sets limits on the emissions of the new heater. In addition to annual limits on emissions, the permit includes short-term emission limits. Operational monitoring is also required for the new heater as it serves as an afterburner for the process gases from the system, as needed to provide practical enforceability of emission limits.

The permit also establishes appropriate compliance procedures for the new tube heater, including requirements for emission testing, required work practices, operational monitoring, recordkeeping, and reporting. These measures are imposed to assure that the operation and emissions of the system are appropriately tracked to confirm compliance with both the short-term and annual emission limits established for emission units.

#### VIII. Request for Comments

It is the Illinois EPA's preliminary determination that the application for this project meets all applicable state and federal air pollution control requirements. The Illinois EPA is therefore proposing to issue a construction permit for this project.

Comments are requested on this proposed action by the Illinois EPA and the conditions of the draft permit.





217/785-1705

CONSTRUCTION PERMIT (DRAFT)

PERMITTEE

Koppers Industries, Inc.  
Attn: Richard Wagner  
3900 South Laramie Avenue  
Cicero, Illinois 60804

Application No.: 11100041

I.D. No.: 031300AAJ

Applicant's Designation:

Date Received: October 24, 2011

Construction of: New Tube Heater for Tar Distillation System #2

Date Issued:

Source Location: 3900 South Laramie Avenue, Cicero, Cook County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emissions source(s) and/or air pollution control equipment consisting of a new Tube Heater for Tar Distillation System #2 as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

- a. This permit authorizes construction of a new heater (the affected unit) for Tar Distillation System #2 (the affected system). The affected unit will serve as the afterburner control device for waste process gases from the distillation column in the affected system and as the reboiler for the affected system, heating the feed to the distillation column. The affected unit would replace the existing afterburner-heater for the affected system. The new unit would be constructed from the shell of the heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack.
- b. This permit does not authorize any changes to the affected system that would increase its production capacity.
- c. This permit does not revise or relax requirements for the affected system, as addressed in the Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134.

2. Applicable Emission Standards

- a. The affected unit is subject to 35 IAC 212.123(a), which generally provides that the emissions of smoke or other PM, from emission units shall not have an opacity greater than 30 percent into atmosphere.

- b. The affected unit is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm.

3. Non-Applicability Provisions

- a. This permit is issued based on this project not being a major modification under federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of SO<sub>2</sub>, the net increase in emissions will not be significant after considering the decrease in emission that will occur from the shutdown of the existing emission heater. (See Attachment 1)
- b. The affected system is not subject to the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H. This is because the primary products manufactured by the affected system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).
- c. The affected system is not subject to Standards of Performance for New Stationary Sources for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN. because construction of the affected system is commenced prior to December 30, 1983.

4. Applicable Work Practices

- a. Natural gas and the process waste gas from the plant shall be the only fuels fired in the affected unit.
- b. The total rated capacity of the natural gas burners in the affected unit shall not exceed 14 mmBTU/hour.
- c. The Permittee shall operate and maintain the affected system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the affected system and address likely malfunction and upsets events for the affected system.
- d. Upon completion of shakedown of the affected unit but in no case later than 180 days after initial startup of the affected unit, the Permittee shall permanently shut down the existing heater for the affected system.



## 5. Emission Limits

The emissions of affected system shall not exceed the following limits. Compliance with the annual limits shall be determined from a running total of 12 months of data.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	3.0	13.1
NO <sub>x</sub>	6.0	26.2
PM/PM <sub>10</sub>	0.5	2.2
SO <sub>2</sub>	41.4	181.2
VOM	3.0	13.1

## 6. Operational Monitoring

- a. The combustion chamber temperature of the affected unit shall be maintained above 1,000 °F or at a temperature that is consistent with the manufacturer's recommended minimum operating temperature or, once testing has been conducted demonstrating compliance with applicable requirements, the minimum operating temperature during emission testing.
- b. The combustion chamber of the affected unit shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to operating the affected system. The affected unit shall be equipped with a combustion chamber temperature indicator and strip chart recorder (or other approved digital storage device). This device shall record the temperature of the exhaust gases at the exit of the chamber combustion zone of the affected unit.

## 7. Requirements for Sampling and Analyzing of Process Waste Gas

- a. The Permittee shall conduct representative sampling for the process waste gas sent to the affected unit. The samples shall be analyzed for sulfur content (percent by volume, for H<sub>2</sub>S, COS, CS<sub>2</sub> and total sulfur) and heat content (Btu/cubic foot) of the process waste gas. This sampling and analysis of the process waste gas shall initially be conducted within 180 days of the initial startup of the affected unit. Thereafter, at least two more samples shall be taken and analyzed, between 9 and 12 month of the previous sampling and analysis.
- b. The Permittee shall keep records for this activity, including the date of sampling and operating condition of the affected system, sampling methodology, identity of analyst, the analysis methods and the results of the analysis.

- c. The Permittee shall submit the results of each analysis to the Illinois EPA with the Annual Emission Reports following the analysis.

8. Testing Requirements

Within 60 days of a written request from the Illinois EPA or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests conducted for NO<sub>x</sub> and VOM emissions, and VOM control efficiency (comparing VOM in process waste gas and in the exhaust) of the affected unit. These tests shall be conducted by an approved independent testing service during conditions that are representative of maximum emission using standard USEPA test methods, as specified in the CAAPP permit for the source.

9. Recordkeeping Requirements

- a. The Permittee shall maintain the following records for the affected unit:
  - i. The rated heat input of the natural gas burners in the affected unit, mmBtu/hour, with supporting documentation.
  - ii. Design data for the maximum and typical rate of process waste gas combusted (scf/hour and mmBtu/hour), i.e., used as the fuel for the affected unit, and typical gross and net heat content of the process waste gas.
- b. The Permittee shall maintain the following records related to emissions of the affected unit:
  - i. The SO<sub>2</sub> emission factor and maximum hourly emission rates used by the Permittee to determine SO<sub>2</sub> emissions from the affected unit, with supporting documentation and calculations.
  - ii. The hourly emission rates or emission factors, and maximum hourly emission rates for emissions of pollutants other than SO<sub>2</sub> used by the Permittee to determine emissions of the affected unit, with supporting documentation and calculations.
- c. The Permittee shall maintain the following operating records for the affected system:
  - i. The operating hour of the affected system (hours/month and hours/year).
  - ii. The natural gas usage of the affected unit (scf/month and scf/year).

- iii. The amount of process waste gas generated by the affected system (scf/month and scf/year), with supporting calculations. This data and the data required by condition 9(c)(iv) may be determined directly or indirectly, being calculated from operating hours and/or operation data recorded for the affected system.
  - iv. The amount of process waste gas sent to the affected unit (scf/month and scf/year).
  - d. The Permittee shall maintain records of the monthly and annual CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected unit based on appropriate emission rates or factors and operating data, with supporting calculations.
  - e. The Permittee shall maintain records for upsets in the operation of the affected unit that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional emissions that occurred, with supporting calculations and background information.
  - f. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
10. If there is a deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the deviation or such later time as specified in the CAAPP permit at the source. The report shall describe the deviation, the probable cause of deviation, the corrective actions that were taken, and any action taken to prevent future occurrences.
11. Two copies of required reports shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

12. The Permittee may operate the affected unit and system under this construction permit until the CAAPP permit is revised to address this unit. This Condition supersedes Standard Condition 6.

If you have any questions on this, please contact Wei Han or Minesh Patel at 217/785-1705.

Edwin C. Bakowski, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:WH

cc: Region 1



Attachment 1: Evaluation of Net Change in Emissions of SO<sub>2</sub> (Tons/Yr)

Project Increase <sup>1</sup>	181.2
Project Decrease <sup>2</sup>	-154.5
Contemporaneous Changes from Other Projects <sup>3</sup>	2.0
Net Emissions Change <sup>4</sup>	28.7
Significant Increase Level	40

Notes:

1. Project Increase is the permitted SO<sub>2</sub> emission of the affected unit.
2. Project Decrease, for the shutdown of existing heater for Tar Distillation System #2, is based on data for actual operation of existing heater provided in the application for 2009 and 2010. The shutdown of the existing heater will also be accompanied by decreases in emissions of NO<sub>x</sub>, CO, VOM and PM/PM<sub>10</sub>, projected at 11.6, 1.3, 5.0 and 0.4 tons/year, respectively.
3. Contemporaneous Changes in emission from other projects accounts for the increase and decrease in emissions of SO<sub>2</sub> from other project that occurred at the source during the applicable five-year contemporaneous period (February 2007 to February 2012). It includes permitted SO<sub>2</sub> emission of the thermal oxidizer for the pitch tanks and other equipment, as addressed by Construction Permit 08040005.
4. Net Emission change is the total of Project Emissions, Project Decrease and Contemporaneous Changes.

**Han, Wei**

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**From:** Han, Wei  
**Sent:** Monday, April 09, 2012 9:54 AM  
**To:** 'Flynn Stephanie M'; Patel, Minesh  
**Cc:** 'Bernie Evans'; Wagner Richard  
**Subject:** RE: Draft Permit  
**Attachments:** Draft4-4-12.doc

Stephanie and Bernie,

Attached is the draft permit revised from your comments of April 3 2012. We need your input for condition 6(a), which is the temperature of combustion chamber. Please let me know if you have any questions.

Wei Han  
Illinois Environmental Protection Agency  
BOA/DAPC/Permit Section  
1021 North Grand Avenue E.  
P.O. Box 19276  
Springfield, IL 62794-9276

Phone: 217-785-1890  
Fax: 217-524-5023  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

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**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Tuesday, April 03, 2012 4:29 PM  
**To:** Han, Wei; Patel, Minesh  
**Cc:** 'Bernie Evans'; Wagner Richard; Flynn Stephanie M  
**Subject:**

Minesh and Wei,

Attached is Koppers response letter comments for the #2 Tube Heater Draft IEPA Construction Permit. A hard copy of the attached letter has been sent UPS overnight for tomorrow delivery to the agency.

Thanks,

Stephanie

Stephanie M. Flynn  
Environmental Manager - Stickney Plant  
Koppers Inc.  
(708) 222-3481  
[FlynnSM@Koppers.com](mailto:FlynnSM@Koppers.com)

217/785-1705

CONSTRUCTION PERMIT (DRAFT)

PERMITTEE

Koppers Industries, Inc.  
Attn: Richard Wagner  
3900 South Laramie Avenue  
Cicero, Illinois 60804

Application No.: 11100041

I.D. No.: 031300AAJ

Applicant's Designation:

Date Received: October 24, 2011

Construction of: New Tube Heater for Tar Distillation System #2

Date Issued:

Source Location: 3900 South Laramie Avenue, Cicero, Cook County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emissions source(s) and/or air pollution control equipment consisting of a new Tube Heater for Tar Distillation System #2 as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

- a. This permit authorizes construction of a new heater (the affected unit) for Tar Distillation System #2 (the affected system). The affected unit will serve as the afterburner control device for waste gases from the distillation column in the affected system and as the reboiler for the affected system, heating the feed to the distillation column. To have sufficient heat input to serve as an afterburner and as a reboiler, the affected unit would have a natural gas-fired burner with a nominal capacity of 14 mmBtu/hour. The affected unit would replace the existing afterburner-heater for the affected system. The new unit would be constructed from the shell of the heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack.
- b. This permit does not authorize any changes to the affected system that would increase its production capacity.
- c. This permit does not revise or relax requirements for the affected system, as addressed in the Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134.

2. Applicable Emission Standards

- a. The affected unit is subject to 35 IAC 212.123(a), which generally provides that the emissions of smoke or other PM, from

emission units shall not have an opacity greater than 30 percent into atmosphere.

- b. The affected unit is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm.

3. Non-Applicable Provisions

- a. This permit is issued based on this project not being a major modification under federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of SO<sub>2</sub>, the net increase in emissions will not be significant after considering the decrease in emission that will occur from the shutdown of the existing emission heater. (See Attachment 1)
- b. The affected system is not subject to the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H because the primary products manufactured by the affected system are not listed in 40 CFR 63.100(b) (1) (i) or (b) (1) (ii).
- c. The affected system is not subject to Standards of Performance for New Stationary Sources for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN because construction of the affected system is commenced prior to December 30, 1983.

4. Applicable Work Practices

- a. Natural gas and the process waste gas from the plant shall be the only fuels fired in the affected unit.
- b. The total rated capacity of the natural gas burners in the affected unit shall not exceed 14 mmBTU/hour.
- c. The Permittee shall operate and maintain the affected system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the affected system and address likely malfunction and upsets events for the affected system.
- d. Upon completion of shakedown of the affected unit but in no case later than 180 days after initial startup of the affected unit,

the Permittee shall permanently shut down the existing heater for the affected system.

5. Emission Limits

The emissions of affected system shall not exceed the following limits. Compliance with the annual limits shall be determined from a running total of 12 months of data.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	3.0	13.1
NO <sub>x</sub>	6.0	26.2
PM/PM <sub>10</sub>	0.5	2.2
SO <sub>2</sub>	41.4	181.2
VOM	3.0	13.1

6. Operational Monitoring

- a. The combustion chamber temperature of the affected unit shall be maintained above \_\_\_\_°F or at a temperature that is consistent with the manufacturer's recommended minimum operating temperature or, once testing has been conducted demonstrating compliance with applicable requirements, the minimum operating temperature during emission testing.
- b. The combustion chamber of the affected unit shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to operating the affected system. The affected unit shall be equipped with a combustion chamber temperature indicator and strip chart recorder (or other approved digital storage device). This device shall record the temperature of the exhaust gases at the exit of the chamber combustion zone of the affected unit.

7. Requirements for Sampling and Analyzing of Process Waste Gas

- a. The Permittee shall conduct representative sampling for the process waste gas sent to the affected unit. The samples shall be analyzed for sulfur content (percent by volume, for H<sub>2</sub>S, COS, CS<sub>2</sub> and total sulfur) and heat content (Btu/cubic foot) of the process waste gas. This sampling and analysis of the process waste gas shall initially be conducted within 180 days of the initial startup of the affected unit. Thereafter, at least two more samples shall be taken and analyzed, between 9 and 12 month of the previous sampling and analysis.
- b. The Permittee shall keep records for this activity, including the date of sampling and operating condition of the affected system, sampling methodology, identity of analyst, the analysis methods and the results of the analysis.

- c. The Permittee shall submit the results of each analysis to the Illinois EPA with the Annual Emission Reports following the analysis.

8. Testing Requirements

Within 60 days of a written request from the Illinois EPA or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests conducted for NO<sub>x</sub> and VOM emissions, and VOM control efficiency (comparing VOM in process waste gas and in the exhaust) of the affected unit. These tests shall be conducted by an approved independent testing service during conditions that are representative of maximum emission using standard USEPA test methods, as specified in the CAAPP permit for the source.

9. Recordkeeping Requirements

- a. The Permittee shall maintain the following records for the affected unit:
  - i. The rated heat input of the natural gas burners in the affected unit, mmBtu/hour, with supporting documentation.
  - ii. Design data for the maximum and typical rate of process waste gas combusted (scf/hour and mmBtu/hour), i.e., used as the fuel for the affected unit, and typical gross and net heat content of the process waste gas.
  - iii. A demonstration that the affected unit complies with 35 IAC 214.301 and 218.966.
- b. The Permittee shall maintain the following records related to emissions of the affected unit:
  - i. The SO<sub>2</sub> emission factor and maximum hourly emission rates used by the Permittee to determine SO<sub>2</sub> emissions from the affected unit, with supporting documentation and calculations.
  - ii. The hourly emission rates or emission factors, and maximum hourly emission rates for emissions of pollutants other than SO<sub>2</sub> used by the Permittee to determine emissions of the affected unit, with supporting documentation and calculations.
- c. The Permittee shall maintain the following operating records for the affected system:
  - i. The operating hour of the affected system (hours/month and hours/year).



- ii. The natural gas usage of the affected unit (scf/month and scf/year).
  - iii. The amount of process waste gas generated by the affected system (scf/month and scf/year), with supporting calculations. This data and the data required by condition 9(c)(iv) may be determined directly or indirectly, being calculated from operating hours and/or operation data recorded for the affected system.
  - iv. The amount of process waste gas sent to the affected unit (scf/month and scf/year).
  - d. The Permittee shall maintain records of the monthly and annual CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected unit based on appropriate emission rates or factors and operating data, with supporting calculations.
  - e. The Permittee shall maintain records for upsets in the operation of the affected unit that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional emissions that occurred, with supporting calculations and background information.
  - f. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
10. If there is a deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the deviation or such later time as specified in the CAAPP permit at the source. The report shall describe the deviation, the probable cause of deviation, the corrective actions that were taken, and any action taken to prevent future occurrences.
11. Two copies of required reports shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office:

Illinois Environmental Protection Agency



Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

12. The Permittee may operate the affected unit and system under this construction permit until the CAAPP permit is revised to address this unit. This Condition supersedes Standard Condition 6.

If you have any questions on this, please contact Wei Han or Minesh Patel at 217/785-1705.

Edwin C. Bakowski, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:WH

cc: Region 1

Attachment 1: Evaluation of Net Change in Emissions of SO<sub>2</sub> (Tons/Yr)

Project Increase <sup>1</sup>	181.2
Project Decrease <sup>2</sup>	-154.5
Contemporaneous Changes from Other Projects <sup>3</sup>	2.0
Net Emissions Change <sup>4</sup>	28.7
Significant Increase Level	.40

Notes:

1. Project Increase is the permitted SO<sub>2</sub> emission of the affected unit.
2. Project Decrease, for the shutdown of existing heater for Tar Distillation System #2, is based on data for actual operation of existing heater provided in the application for 2009 and 2010. The shutdown of the existing heater will also be accompanied by decreases in emissions of NO<sub>x</sub>, CO, VOM and PM/PM<sub>10</sub>, projected at 11.6, 1.3, 5.0 and 0.4 tons/year, respectively.
3. Contemporaneous Changes in emission from other projects accounts for the increase and decrease in emissions of SO<sub>2</sub> from other project that occurred at the source during the applicable five-year contemporaneous period (February 2007 to February 2012). It includes permitted SO<sub>2</sub> emission of the thermal oxidizer for the pitch tanks and other equipment, as allowed by Construction Permit 08040005.
4. Net Emission change is the total of Project Emissions, Project Decrease and Contemporaneous Changes.

Han, Wei

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**From:** Han, Wei  
**Sent:** Tuesday, April 03, 2012 5:27 PM  
**To:** 'Flynn Stephanie M'; Patel, Minesh  
**Cc:** 'Bernie Evans'; Wagner Richard  
**Subject:** RE:

Thank you. We will work on your comments.

Wei Han  
Illinois Environmental Protection Agency  
BOA/DAPC/Permit Section  
1021 North Grand Avenue E.  
P.O. Box 19276  
Springfield, IL 62794-9276

Phone: 217-785-1890  
Fax: 217-524-5023  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

---

**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Tuesday, April 03, 2012 4:29 PM  
**To:** Han, Wei; Patel, Minesh  
**Cc:** 'Bernie Evans'; Wagner Richard; Flynn Stephanie M  
**Subject:**

Minesh and Wei,

Attached is Koppers response letter comments for the #2 Tube Heater Draft IEPA Construction Permit. A hard copy of the attached letter has been sent UPS overnight for tomorrow delivery to the agency.

Thanks,

Stephanie

Stephanie M. Flynn  
Environmental Manager - Stickney Plant  
Koppers Inc.  
(708) 222-3481  
[FlynnSM@Koppers.com](mailto:FlynnSM@Koppers.com)

Han, Wei

---

**From:** Han, Wei  
**Sent:** Friday, March 23, 2012 10:54 AM  
**To:** Flynn Stephanie M  
**Cc:** Patel, Minesh  
**Subject:** RE: Monday's call

Stephanie,

I have reserved the conference room for Monday 10:30 am. Here is the phone number: 217-557-2438. Talk to you on Monday.

Have a good weekend.

Wei Han  
Illinois Environmental Protection Agency  
BOA/DAPC/Permit Section  
1021 North Grand Avenue E.  
P.O. Box 19276  
Springfield, IL 62794-9276

Phone: 217-785-1890  
Fax: 217-524-5023  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Friday, March 23, 2012 10:25 AM  
**To:** Han, Wei  
**Subject:** Monday's call

Wei,

We can call your conference room on Monday at 10:30. Can you provide the number on Monday. We have to patch in Bernie Evans, ERM to the call so it is easier from a logistics standpoint if we call you.

Thanks,

Stephanie  
(708) 222-3481

Han, Wei

---

**From:** Han, Wei  
**Sent:** Friday, March 16, 2012 5:30 PM  
**To:** Flynn Stephanie M  
**Cc:** 'Bernie Evans'; Patel, Minesh  
**Subject:** RE: Conference Call- Koppers Draft permit

I will check with Minesh and let you know next week.

Wei Han  
Illinois Environmental Protection Agency

Phone: 217-785-1890  
Fax: 217-524-5023  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

---

**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Friday, March 16, 2012 4:46 PM  
**To:** Han, Wei  
**Cc:** 'Bernie Evans'  
**Subject:** Conference Call- Koppers Draft permit

Wei,

Can we have a conference call with you and Minesh regarding Koppers Draft permit. We are looking at the early part of the week of March 26, if that meets your schedules.

Thanks,  
Stephanie

Stephanie M. Flynn  
Environmental Manager - Stickney Plant  
Koppers Inc.  
(708) 222-3481  
[FlynnSM@Koppers.com](mailto:FlynnSM@Koppers.com)

**Han, Wei**

---

**From:** Han, Wei  
**Sent:** Thursday, February 16, 2012 4:11 PM  
**To:** Flynn Stephanie M  
**Cc:** bernie.evans@erm.com; Patel, Minesh  
**Subject:** Draft Permit for #2 Tube Heater "Reconstruction"- Koppers  
**Attachments:** Draft1-18-12.doc

Hi, Stephanie,

Attached is the draft permit for your review, comments and suggestions. Please let us know if you have any questions.

Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217-785-1890  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

217/785-1705

CONSTRUCTION PERMIT (PRELIMINARY DRAFT)

PERMITTEE

Koppers Industries, Inc.  
Attn: Richard Wagner  
3900 South Laramie Avenue  
Cicero, Illinois 60804

Application No.: 11100041

I.D. No.: 031300AAJ

Applicant's Designation:

Date Received: October 24, 2011

Construction of: New Tube Heater for Tar Distillation System #2

Date Issued:

Source Location: 3900 South Laramie Avenue, Cicero, Cook County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emissions source(s) and/or air pollution control equipment consisting of a new Tube Heater for Tar Distillation System #2 as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

- a. This permit authorizes construction of a new heater (the affected unit) for Tar Distillation System #2 (the affected system). The affected unit will serve as the afterburner control device for waste gases from the distillation column in the affected system and as the reboiler for the affected system, heating the feed to the distillation column. To have sufficient heat input to serve as an afterburner and as a reboiler, the affected unit would have a natural gas-fired burner with a nominal capacity of 14 mmBtu/hour. The affected unit would replace the existing afterburner-heater for the affected system. The new unit would be constructed from the shell of the heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack.
- b. This permit does not authorize any changes to the affected system that would increase its production capacity.
- c. This permit does not revise or relax requirements for the affected system, as addressed in the Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134.

2. Applicable Emission Standards

- a. The affected unit is subject to 35 IAC 212.123(a), which generally provides that the emissions of smoke or other PM, from

emission units shall not have an opacity greater than 30 percent into atmosphere.

- b. The affected unit is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm.
- c. The affected system is subject to 25 IAC 218.966, which requires that the affected unit provide an overall reduction in uncontrolled VOM emission from the distillation column of at least 81 percent unless an equivalent alternative control plan is approved by the Illinois EPA and USEPA in accordance with 35 IAC 218.966(b).

3. Non-Applicable Provisions

- a. This permit is issued based on this project not being a major modification under federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of SO<sub>2</sub>, the net increase in emissions will not be significant after considering the decrease in emission that will occur from the shutdown of the existing emission heater. (See Attachment 1)
- b. The affected system is not subject to the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H because the primary products manufactured by the affected system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).
- c. The affected system is not subject to Standards of Performance for New Stationary Sources for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN because construction of the affected system is commenced prior to December 30, 1983.

4. Applicable Work Practices

- a. Natural gas and the process waste gas from the plant shall be the only fuels fired in the affected unit.
- b. The total rated capacity of the natural gas burners in the affected unit shall not exceed 14 mmBTU/hour.
- c. The Permittee shall operate and maintain the affected system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall



include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the affected system and address likely malfunction and upsets events for the affected system.

- d. Upon completion of shakedown of the affected unit but in no case later than 180 days after initial startup of the affected unit, the Permittee shall permanently shut down the existing heater for the affected system.

#### 5. Emission Limits

The emissions of affected system shall not exceed the following limits. Compliance with the annual limits shall be determined from a running total of 12 months of data.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	0.3	1.5
NO <sub>x</sub>	3.0	12.9
PM/PM <sub>10</sub>	0.1	0.5
SO <sub>2</sub>	41.4	181.2
VOM	1.3	5.9

#### 6. Operational Monitoring

- a. The combustion chamber temperature of the affected unit shall be maintained above \_\_\_\_°F or at a temperature that is consistent with the manufacturer's recommended minimum operating temperature or, once testing has been conducted demonstrating compliance with applicable requirements, the minimum operating temperature during emission testing.
- b. The combustion chamber of the affected unit shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to operating the affected system. The affected unit shall be equipped with a combustion chamber temperature indicator and strip chart recorder (or other approved digital storage device). This device shall record the temperature of the exhaust gases at the exit of the chamber combustion zone of the affected unit.

#### 7. Requirements for Sampling and Analyzing of Process Waste Gas

- a. The Permittee shall conduct representative sampling for the process waste gas sent to the affected unit. The samples shall be analyzed for sulfur content (percent by volume, for H<sub>2</sub>S, COS, CS<sub>2</sub> and total sulfur) and heat content (Btu/cubic foot) of the process waste gas. This sampling and analysis of the process waste gas shall initially be conducted within 180 days of the initial startup of the affected unit. Thereafter, at least three

more samples shall be taken and analyzed, between 9 and 12 month of the previous sampling and analysis.

- b. The Permittee shall keep records for this activity, including the date of sampling and operating condition of the affected system, sampling methodology, identity of analyst, the analysis methods and the results of the analysis.
- c. The Permittee shall submit the results of these analyses to the Illinois EPA with its Annual Emission Reports.

#### 8. Testing Requirements

Within 60 days of a written request from the Illinois EPA or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests conducted for NO<sub>x</sub> and VOM emissions, and VOM control efficiency (comparing VOM in process waste gas and in the exhaust) of the affected unit. These tests shall be conducted by an approved independent testing service during conditions that are representative of maximum emission using standard USEPA test methods, as specified in the CAAPP permit for the source.

#### 9. Recordkeeping Requirements

- a. The Permittee shall maintain the following records for the affected unit:
  - i. The rated heat input of the natural gas burners in the affected unit, mmBtu/hour, with supporting documentation.
  - ii. Design data for the maximum and typical rate of process waste gas combusted (scf/hour and mmBtu/hour), i.e., used as the fuel for the affected unit, and typical gross and net heat content of the process waste gas.
  - iii. A demonstration that the affected unit complies with 35 IAC 214.301 and 218.966.
- b. The Permittee shall maintain the following records related to emissions of the affected unit:
  - i. The SO<sub>2</sub> emission factor and maximum hourly emission rates used by the Permittee to determine SO<sub>2</sub> emissions from the affected unit, with supporting documentation and calculations.
  - ii. The hourly emission rates or emission factors, and maximum hourly emission rates for emissions of pollutants other than SO<sub>2</sub> used by the Permittee to determine emissions of the affected unit, with supporting documentation and calculations.

- c. The Permittee shall maintain the following operating records for the affected system:
    - i. The operating hour of the affected system (hours/month and hours/year).
    - ii. The natural gas usage of the affected unit (scf/month and scf/year).
    - iii. The amount of process waste gas generated by the affected system (scf/month and scf/year), with supporting calculations.
    - iv. The amount of process waste gas sent to the affected unit (scf/month and scf/year).
  - d. The Permittee shall maintain records of the monthly and annual CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the affected unit based on appropriate emission rates or factors and operating data, with supporting calculations.
  - e. The Permittee shall maintain records for upsets in the operation of the affected unit that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional emissions that occurred, with supporting calculations and background information.
  - f. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
10. If there is a deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the deviation or such later time as specified in the CAAPP permit at the source. The report shall describe the deviation, the probable cause of deviation, the corrective actions that were taken, and any action taken to prevent future occurrences.
11. Two copies of required reports shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

12. The Permittee may operate the affected unit and system under this construction permit until the CAAPP permit is revised to address this unit. This Condition supersedes Standard Condition 6.

If you have any questions on this, please contact Wei Han or Minesh Patel at 217/785-1705.

Edwin C. Bakowski, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

Date Signed: \_\_\_\_\_

ECB:WH

cc: Region 1

Attachment 1: Evaluation of Net Change in Emissions of SO<sub>2</sub> (Tons/Yr)

Project Increase <sup>1</sup>	181.2
Project Decrease <sup>2</sup>	-154.5
Contemporaneous Changes from Other Projects <sup>3</sup>	2.0
Net Emissions Change <sup>4</sup>	28.7
Significant Increase Level	40

Notes:

1. Project Increase is the permitted SO<sub>2</sub> emission of the affected unit.
2. Project Decrease, for the shutdown of existing heater for Tar Distillation System #2, is based on data for actual operation of existing heater provided in the application for 2009 and 2010. The shutdown of the existing heater will also be accompanied by decreases in emissions of NO<sub>x</sub>, CO, VOM and PM/PM<sub>10</sub>, projected at 11.6, 1.3, 5.0 and 0.4 tons/year, respectively.
3. Contemporaneous Changes in emission from other projects accounts for the increase and decrease in emissions of SO<sub>2</sub> from other project that occurred at the source during the applicable five-year contemporaneous period (February 2007 to February 2012). It includes permitted SO<sub>2</sub> emission of the thermal oxidizer for the pitch tanks and other equipment, as allowed by Construction Permit 08040005.
4. Net Emission change is the total of Project Emissions, Project Decrease and Contemporaneous Changes.

Han, Wei

---

**From:** Han, Wei  
**Sent:** Friday, January 20, 2012 10:08 AM  
**To:** FlynnSM@koppers.com  
**Cc:** bernie.evans@erm.com; Patel, Minesh; Romaine, Chris  
**Subject:** #2 Tube Heater "Reconstruction"

Hi, Stéphanie,

Additional information is needed to support this application:

1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.
2. Data for the actual sulfur content of this process gas.
3. Data for the heat content of this process gas.
4. Detailed supporting calculations for the actual SO<sub>2</sub> emissions of the No. Tar Still during the baseline time period.
5. A simple diagram of the tube heater describing its layout, including burner(s),\* combustion chamber and convection section, where tar is heated.

\* In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

6. A discussion supporting classification of the "Naphthalene Heater" as an existing emission unit. In particular, this heater is not currently permitted to operate by the CAAPP permit for the source and has been out of service for almost 20 years.
7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

The need for this information became apparent when it was realized that the new natural gas fired burner for the tube heater represented the total "fuel input" to the tube heater. As such the emission information in the application would indicate an SO<sub>2</sub> emission rate of approximately 3 lbs of SO<sub>2</sub>/mmBtu from the tube heater, comparing the hourly SO<sub>2</sub> rate, 41.4 lbs/hr, and the maximum fuel heat input, 14 mmBtu/hr. This is in excess of the emission rate that would be allowed for the unit as a fuel combustion by 35 IAC 214.122(b)(1) and 214.162(a) and (c)(1), i.e., emissions of 1.0 lb of SO<sub>2</sub> per mmBtu for only the heat input from the process gas.

Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217-785-1890  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

Han, Wei

---

**From:** Han, Wei  
**Sent:** Friday, January 20, 2012 2:50 PM  
**To:** Flynn Stephanie M  
**Cc:** Patel, Minesh; 'Bernie Evans'  
**Subject:** RE: #2 Tube Heater "Reconstruction"

Stephanie,

Ok. I will send you the phone number of the conference room on Monday morning.

Thank you. You have a good weekend ,too.

**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Friday, January 20, 2012 1:59 PM  
**To:** Han, Wei  
**Cc:** Patel, Minesh; 'Bernie Evans'  
**Subject:** RE: #2 Tube Heater "Reconstruction"

Wei,

Thanks. How about we call at 10:00 am if that time does not work let us know. Have a great weekend.

Stephanie

---

**From:** Han, Wei [<mailto:Wei.Han@Illinois.gov>]  
**Sent:** Friday, January 20, 2012 1:57 PM  
**To:** Flynn Stephanie M  
**Cc:** Patel, Minesh  
**Subject:** RE: #2 Tube Heater "Reconstruction"

Stephanie,

Minesh and I can talk to you and Bernie Evans on Monday. Since he is not here today, let's assume the time will work for him. If not, we will let you know on Monday morning. Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217 785-1890  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Friday, January 20, 2012 11:29 AM  
**To:** Han, Wei

**Cc:** 'Bernie Evans'  
**Subject:** RE: #2 Tube Heater "Reconstruction"

Wei,

Can Bernie Evans, ERM and I give you a call sometime between 9:30 and 11:30 am on Monday to discuss your email.

Thanks,

Stephanie M. Flynn  
Environmental Manager - Stickney Plant  
Koppers Inc.  
(708) 222-3481  
[FlynnSM@Koppers.com](mailto:FlynnSM@Koppers.com)

**From:** Han, Wei [<mailto:Wei.Han@Illinois.gov>]  
**Sent:** Friday, January 20, 2012 10:08 AM  
**To:** Flynn Stephanie M  
**Cc:** [bernie.evans@erm.com](mailto:bernie.evans@erm.com); Patel, Minesh; Romaine, Chris  
**Subject:** #2 Tube Heater "Reconstruction"

Hi, Stephanie,

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1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.
2. Data for the actual sulfur content of this process gas.
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5. A simple diagram of the tube heater describing its layout, including burner(s),\* combustion chamber and convection section, where tar is heated.

\* In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

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7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

The need for this information became apparent when it was realized that the new natural gas fired burner for the tube heater represented the total "fuel input" to the tube heater. As such the emission information in the application would indicate an SO<sub>2</sub> emission rate of approximately 3 lbs of SO<sub>2</sub>/mmBtu from the tube heater, comparing the hourly SO<sub>2</sub> rate, 41.4 lbs/hr, and the maximum fuel heat input, 14 mmBtu/hr. This is in excess of the emission rate that would be allowed for the unit as a fuel combustion by 35 IAC 214.122(b)(1) and 214.162(a) and (c)(1), i.e., emissions of 1.0 lb of SO<sub>2</sub> per mmBtu for only the heat input from the process gas.



Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217-785-1890

Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

Han, Wei

---

**From:** Han, Wei  
**Sent:** Friday, January 20, 2012 1:57 PM  
**To:** Flynn Stephanie M  
**Cc:** Patel, Minesh  
**Subject:** RE: #2 Tube Heater "Reconstruction"

Stephanie,

Minesh and I can talk to you and Bernie Evans on Monday. Since he is not here today, let's assume the time will work for him. If not, we will let you know on Monday morning. Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217-785-1890  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

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**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Friday, January 20, 2012 11:29 AM  
**To:** Han, Wei  
**Cc:** 'Bernie Evans'  
**Subject:** RE: #2 Tube Heater "Reconstruction"

Wei,

Can Bernie Evans, ERM and I give you a call sometime between 9:30 and 11:30 am on Monday to discuss your email.

Thanks,

Stephanie M. Flynn  
Environmental Manager - Stickney Plant  
Koppers Inc.  
(708) 222-3481  
[FlynnSM@Koppers.com](mailto:FlynnSM@Koppers.com)

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**From:** Han, Wei [<mailto:Wei.Han@Illinois.gov>]  
**Sent:** Friday, January 20, 2012 10:08 AM  
**To:** Flynn Stephanie M  
**Cc:** [bernie.evans@erm.com](mailto:bernie.evans@erm.com); Patel, Minesh; Romaine, Chris  
**Subject:** #2 Tube Heater "Reconstruction"

Hi, Stephanie,

Additional information is needed to support this application:

1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.

2. Data for the actual sulfur content of this process gas.
3. Data for the heat content of this process gas.
4. Detailed supporting calculations for the actual SO<sub>2</sub> emissions of the No. Tar Still during the baseline time period.
5. A simple diagram of the tube heater describing its layout, including burner(s),\* combustion chamber and convection section, where tar is heated.

\* In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

6. A discussion supporting classification of the "Naphthalene Heater" as an existing emission unit. In particular, this heater is not currently permitted to operate by the CAAPP permit for the source and has been out of service for almost 20 years.
7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

The need for this information became apparent when it was realized that the new natural gas fired burner for the tube heater represented the total "fuel input" to the tube heater. As such the emission information in the application would indicate an SO<sub>2</sub> emission rate of approximately 3 lbs of SO<sub>2</sub>/mmBtu from the tube heater, comparing the hourly SO<sub>2</sub> rate, 41.4 lbs/hr, and the maximum fuel heat input, 14 mmBtu/hr. This is in excess of the emission rate that would be allowed for the unit as a fuel combustion by 35 IAC 214.122(b)(1) and 214.162(a) and (c)(1), i.e., emissions of 1.0 lb of SO<sub>2</sub> per mmBtu for only the heat input from the process gas.

Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217-785-1890  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

Han, Wei

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**From:** Han, Wei  
**Sent:** Thursday, January 19, 2012 3:24 PM  
**To:** Flynn Stephanie M; Patel, Minesh  
**Subject:** RE: Netting Fee- Koppers

Yes, we have received the check and form. Thank you.

Wei Han, Permit Engineer  
BOA/Illinois EPA  
1201 North Grand Avenue E.  
Springfield, IL 62794

Phone: 217-785-1890  
Email: [Wei.Han@Illinois.gov](mailto:Wei.Han@Illinois.gov)

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**From:** Flynn Stephanie M [<mailto:FlynnSM@koppers.com>]  
**Sent:** Thursday, January 19, 2012 2:54 PM  
**To:** Flynn Stephanie M; Han, Wei; Patel, Minesh  
**Subject:** RE: Netting Fee- Koppers

Wei and Minesh,

Did you receive the check yet.

Thanks,

Stephanie

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**From:** Flynn Stephanie M  
**Sent:** Tuesday, January 17, 2012 3:01 PM  
**To:** 'wei.han@illinois.gov'; 'Patel, Minesh'  
**Subject:** Netting Fee- Koppers

Wei and Minesh,

The application fee form and check for \$3000 is being sent overnight for tomorrow am delivery to the IEPA.

Thanks,  
Stephanie

Stephanie M. Flynn  
Environmental Manager - Stickney Plant  
Koppers Inc.  
(708) 222-3481  
[FlynnSM@Koppers.com](mailto:FlynnSM@Koppers.com)